It has been previously considered that the only way to protect cables from fire and mechanical damage is to pull them into ducts encased by concrete forming the bench walls. This cumbersome solution restricts the lengths of HV cables which can be pulled into ducts, does not give easy access for maintenance, and requires frequent joint pits which are current sources of failure.

2.4 FINDING: WHAT IS RECOMMENDED

2.4.1 Implement NRT Refurbishment ''In-Service'':

LBA believes that regular weeknight and weekend periods or one-tube outages are feasible. This would necessitate an in-service sequence of work in only one of the NRT tubes at any point in time and refurbishment could be undertaken simultaneously in a number of locations in the occupied NRT tube. Planning should utilise weeknights for non-invasive work and weekends for more linear, invasive construction work.

Repair the tunnel lining and seal the leaks

Replace the mechanical and electrical services in the tunnel with new and improved systems

Replace the High Voltage (HV) cables which pass through the tubes

Demolish the bench walls (which are too high and failing) and replace them with new walkways and cable containments

Replace the trackbed, track, and overhead catenary

Replace the signalling system

2.4.2 Reduce the Service Impacts at the Earliest Possible Stage:

The prioritisation of track, trackbed, and overhead line replacement is important in planning the NRT Refurbishment, therefore, early activities should include:

Lower trackbed, Where Possible: To achieve a greater clearance between the overhead catenary cable and the train pantograph (arm)

Direct Fixation Trackbed: Replace the existing traditional ballasted (crushed stone) trackbed with a fixed concrete system (direct fixation track) to avoid blocked drains and salt-contaminated ballast (that result in signal problems)

Modify or Replace 12.5kV Overhead Line: To achieve the full dynamic and electrical clearances that are required in the crown of the tubes for compliance with standards

2.4.3 Utilise In-Line Methodologies and Sequences for Bench Wall Demolition & Replacement:

LBA have detailed a number of possible methodologies for the replacement of the NRT bench wall based on benchmark performance information from successful international projects to provide an emergency egress walkway, a maintenance platform for railway workers, and locations for the tunnel's electrical/communication cables and third-party services, including a precast solution, GRP encasement solution, duct bank solution with fire protection, fireproof duct solution, and cable in racks only solution. All options have their advantages and disadvantages, but the fireproof duct solution incorporated in a steel cantilevered walkway conceptually seems to offer the best potential ahead of a formal fire risk assessment.

2.4.4 Utilise modern cable solutions and comply with NFPA 130 Fire Life Safety requirements:

LBA makes recommendations for modern cable solutions and an approach to cable management and containment based on laying cables rather than pulling them. Utilizing the longest possible lengths of cable reduces joints and joint pits and ultimately potential cable failures. High Voltage (HV) cables (power cables) and Low Voltage (LV) cables (lighting, telephony, fire detection, alarm, and communications) may require different types of solutions, depending on the level of Fire Protection required under the NFPA 130 standard.

LV cable containment systems could include continuous troughs and cable racking with fire protection to emergency circuits provided by the direct cable sheathing or a sheathing which contains the cable.

HV cables with intrinsic resistance to fire are not available but fire protection may be required to protect business continuity as the result of a fire risk assessment identifying an unacceptable level or risk. Cables could be contained in a number of ways including securing to low level cable racks and fireproof ducting. Suitable fireproof ducting has been identified if required and included in the conceptual bench wall replacement options. Space constraints are an important consideration because the fire resistance is dependent on the duct material thickness and air gaps are required around the cables for cooling. A detailed design would be required to determine the final solution for the duct.

Protection to all cables and services should be provided by derailment protection provided by guard rails, which sit inside the running rails.

Refurbishment should ensure that the emergency egress walkway clearances are safe and compliant with NFPA 130 requirements.

2.4.5 Remove the Third Rail:

LBA believes that the Third Rail should be removed because it is not used routinely, there are alternatives to its use in an emergency, the cost of installing and maintaining is unnecessary, it is an unnecessary complication in safety and emergency procedures, and, if required, the Third Rail can be re-installed at the end of construction or another future date.

2.4.6 Treat the In-Service Refurbishment Operation as a System:

Optimise the overall performance rather than maximise component elements of the cycle and propose using mechanical measures where practicable to enhance productivity and promote innovation, refinement, and improvement.

2.4.7 Utilise Bespoke and Highly Productive Works Trains & Railhead:

Battery or hybrid locomotives could be used for train rescue and for handling works trains for NRT refurbishment. A railhead should be constructed to support the activities within the NRT tubes to service and load work trains for the refurbishment.

2.4.8 Incorporate Risk Mitigation Throughout the Planning of the Refurbishment:

Mitigations have been implemented successfully to help other refurbishment projects of comparable age, complexity, and essentiality. The risk chapter of this report identifies specific risks and proposes appropriate mitigations. LBA recommends that a risk assessment is conducted by the Integrated Work Team, which includes the Gateway Partners, to compile and address the risks and deficiencies that could occur during the refurbishment program.

HONORING THE CAREER OF KEN SMITH

HON. BILLY LONG

OF MISSOURI

IN THE HOUSE OF REPRESENTATIVES

Tuesday, May 11, 2021

Mr. LONG. Madam Speaker, I rise today to honor the long and storied career of Branson West City Administrator Ken Smith.

Mr. Smith began his tenure in 1998, and since then, has worked tirelessly for the people of Branson West. As City Administrator, he has overseen numerous projects designed to improve and expand the city. Shortly after he took office, the new Sewer Treatment Plant Facility was completed. This facility was designed to meet the needs of the city well into the future and has remained in operation, ready for the city to continue prospering. He has also overseen the expansion of utility lines so that the city can provide essential services to more properties. In addition to these projects, in recent years, sidewalks and streetlights have been added along Business Highway 13, and a new water tower has been approved.

In October 2010, Branson West Municipal Airport was opened. The new airport includes a 5000-foot runway, and 10,000 square foot maintenance hangar connected to the terminal. There are 39 private T-hangars, all of which are occupied, and construction is about to begin on 4 larger square hangars. All of this allows for a general aviation facility, which serves the city and surrounding communities. In 2016, the city limits were expanded south on Highway 13 to Highway DD.

All these projects have allowed for community growth. New businesses have been drawn to the community, and there are more projects underway to encourage further business expansion. The city has also recently acquired land for future parks and recreation. Mr. Smith has overseen all these projects, and many more, during his 23-year tenure as City Administrator.

Madam Speaker, since taking office in 1998, Ken Smith has worked every day for the people of Branson West. He has led several projects and expansions of the city, all designed to improve the community he has so enthusiastically served. I wish him, and his family a happy retirement.

TRIBUTE TO PAUL JONES

HON. KEN CALVERT

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Tuesday, May 11, 2021

Mr. CALVERT. Madam Speaker, I rise today to honor and congratulate Paul D. Jones II who will be retiring this spring after a highly distinguished career of service in the California water industry. For over twenty-five years, Mr. Jones has been the top executive officer for major water agencies in the Southern California region. Over the last decade, Mr. Jones has served as the General Manager for Eastern Municipal Water District (EMWD), which serves nearly one million customers in western Riverside County.

During his tenure at EMWD, Mr. Jones has been widely recognized for his leadership in elevating Eastern to one of the most respected and forward-thinking water, wastewater and recycled water agencies in the nation. Mr. Jones played an instrumental role in notable accomplishments for EMWD, such as the agency's achievement of 100 percent beneficial reuse of its recycled water supplies, the initiation of its potable reuse program, and the spearheading of key infrastructure investments which will provide safe and reliable services for future generations. Under Paul's direction,